

CLAIMS

1. A tool (1) for polishing a knife's edge, the tool comprising two substantially identical rotation symmetric bodies (3,4) carried on a rotary shaft of a hand held motor (2), said bodies having front ends facing each other in direct contact or through an intermediate elastic element (8), and further comprising two co-rotating rings of honing studs (10) facing each other, the honing studs extended between the bodies (3,4) at intersecting directions forming an intermediate angle (α) wherein the knife's edge is inserted to be straightened by the tool in rotation, characterized in that the radially inner end of each honing stud (10) is supported from a central portion (6) in the front end of one body (3,4), and the outer end is received and supported within the perimeter of the front end of the opposite body (3,4), when the bodies are mounted on the rotary shaft.
2. The tool of claim 1, characterized in that the inner ends of the honing studs (10) are inserted in blind bores (9) that are evenly spaced on a circular line about a hub (6), arising from a center portion in the front end of each body (3,4), the blind bores sloping radially towards the perimeter of the body, and a formation (11) arranged within said perimeter receiving the outer ends of the honing studs from the opposite body when the bodies are mounted on the rotary shaft, thereby preventing the honing studs from being dislodged due to centrifugal forces arising during rotation of the polishing tool.
3. The tool of claim 2, characterized by an elastic element (8) being inserted between the bodies (3,4), by which the bodies are axially movable towards each other on the shaft against the force of the elastic element (8), when sufficient load is applied from the knife's blade/knife's edge.
4. The tool of any previous claim, characterized by each body (3,4) being formed with a hub (6) arising above the front end and having a central through hole, a sloping wall (7) connecting the top of the hub to a radially outer portion of the front end, and a formation (11) arranged in the front end within the perimeter of the body, the formation being a ring-shaped groove, a number of pits, or a protrusion, and blind

bores (9) receiving the inner ends of the honing studs (10) arranged on a circle running about the sloping wall (7).

5. The tool of any previous claim, wherein the bodies (3,4) are prevented from relative rotation through the honing studs (10) intersecting under mutual contact when the bodies are mounted on the shaft.
6. The tool of any previous claim, wherein the honing studs (10) having an oval, or an elliptic, or a circular sectional profile at least in a portion of the surface that sweeps the knife's edge.
7. The tool of any previous claim, wherein the honing studs (10) are produced from a ceramic material, from metal, or from glass.
8. The tool of claim 7, wherein the honing studs (10) are composed from a core surrounded by a layer of other material than the core.
9. The tool of any previous claim, wherein the intermediate angle α between intersecting honing studs is 20-50°, preferably 25-45°.